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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/673,111 | 09/26/2003 | Kentaro Toyama | MCS-043-03 (304965.01) | 2316 |
| 27662 | 7590 | 05/04/2006 | EXAMINER | |
| MICROSOFT CORPORATION C/O LYON & HARR, LLP 300 ESPLANADE DRIVE SUITE 800 OXNARD, CA 93036 | | | COLAN, GIOVANNA B | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2162 | |

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/673,111 | | TOYAMA ET AL. | |
| | Examiner | | Art Unit | |
| | Giovanna Colan | | 2162 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 23-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 26-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>1/10/06, 10/25/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 – 22, and 26 – 30, drawn to manipulating data structure, classified in class 707, subclass 101.
 - II. Claims 23 – 25, drawn to generating data structure, classified in class 707, subclass 102.

Inventions I, and II are related as combination and subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as manipulating data structure, particularly, by computing indexes; invention II has separate utility such as generating data structure, particularly, by constructing indexes; Each of the two inventions does not require the particulars of the remaining inventions.

On April 6, 2006, a telephone call was made to Katrina A. Lyon (reg. # 42,821) to request an oral election to the above restriction requirement, and resulted in a provisionally election being made.

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2. This action is issued in response to applicant filed application on 09/26/2003.
3. Claims 1 – 30 are pending. Claims 1 – 22 and 26 – 30 were provisionally elected with traverse.
4. The information disclosure statement (IDS) submitted on 01/10/2006, and 10/25/2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

5. Claim 18 is objected to because of the following informalities: the limitation "(x,y,z)" includes parenthesis and thus does not clearly disclose whether this limitation includes or excludes this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

A. Identify and Understand Any Practical Application Asserted for the Invention

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The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

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7. Claims 1, 3 – 20, and 26 – 30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In the instance application, claims 1 and 26 recite limitation that do not disclose steps to produce a “useful, concrete and tangible result,” such as, output to be used by a specific system.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends. Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3 – 6, 14 – 18, 26 – 27, and 29 – 30 are rejected under 35 U.S.C. 102(b) as being anticipated by McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002).

Regarding Claim 1, McBride discloses a computer-implemented process for combining a precision estimate of a database entry's coordinate value with the coordinate value into a single index, comprising the process actions of:

inputting one or more location entities (Col. 3 and 9, lines 23 – 26 and 43 – 46; respectively, McBride); and

computing a grid index series wherein each location entity is represented as a series of grids that incorporate the location of each location entity (Col. 4, lines 32 – 33 and 40 – 44, the grid point index, McBride).

Regarding Claim 3, McBride discloses a computer-implemented process wherein a location entity is a point (Col. 9, lines 29 – 32, McBride).

Regarding Claim 4, McBride discloses a computer-implemented process of claim 1 wherein a location entity is an area (Col. 3, lines 38 – 41, McBride¹).

Regarding Claim 5, McBride discloses a computer-implemented process wherein said area is defined by a center latitude and longitude (Col. 2, lines 41 – 44, latitude and longitude, McBride) and a width (Col. 5, lines 34 – 37, McBride²) and a height (Col. 2, lines 41 – 44, height, McBride), each measured from the center latitude and longitude and along lines of latitude and longitude (Col. 4, lines 22 – 24, McBride).

¹ Wherein examiner interprets the region as the area claimed.

Regarding Claim 6, McBride discloses a computer-implemented process wherein equirectangular projection is used to input latitude and longitude values of said one or more location entities as x-y pairs on a Euclidean coordinate system (Col. 4 and 5, lines 1 – 4 and 34 – 37; respectively, McBride).

Regarding Claim 14, McBride discloses a computer-implemented process wherein the location entity is geographic location data (Col. 3, lines 34 – 41, survey location, McBride).

Regarding Claim 15, McBride discloses a computer-implemented process wherein the location entity is described in terms of latitude and longitude (Col. 2, lines 41 – 44, McBride).

Regarding Claim 16, McBride discloses a computer-implemented process wherein the latitude and longitude values are taken as straight x-y pairs on a Euclidean coordinate system (Col. 4, lines 7 – 10, McBride).

Regarding Claim 17, McBride discloses a computer-implemented process wherein the location entity is described in terms of latitude, longitude and altitude (Col. 2, lines 41 – 44, latitude, longitude, and height, McBride).

² Wherein examiner interprets that rectangular coordinates imply the use of width claimed.

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Regarding Claim 18, McBride discloses a computer-implemented process wherein the latitude, longitude and altitude values are taken as (x,y,z) pairs on a Euclidean coordinate system (Col. 4, lines 6 – 10, location coordinates ($X_{m,G}$, $Y_{m,G}$, $Z_{m,G}$), McBride).

Regarding Claim 26, McBride discloses a computer-readable medium having computer-executable instructions for combining a precision estimate of a database entry's coordinate value with the coordinate value into a single index, said computer executable instructions comprising:

inputting one or more location entities (Col. 3 and 9, lines 23 – 26 and 43 – 46; respectively, McBride); and

computing a grid index series wherein each location entity is represented as a series of grids that incorporate the location of each location entity (Col. 4, lines 32 – 33 and 40 – 44, the grid point index, McBride).

Regarding Claim 27, McBride discloses a computer-readable medium wherein the instruction computing a grid index series uses an equirectangular projection (Col. 5, lines 34 – 37, McBride).

Regarding Claim 29, McBride discloses a computer-readable medium wherein the series of grids is a hierarchical series of equilateral polygons embedded within a Platonic solid (Fig. 3 and 4, Col. 6, lines 25 – 30, McBride).

Regarding Claim 30, McBride discloses a computer-readable medium wherein the series of grids is a hierarchical series of polygons that grids the globe (Col. 6, lines 25 – 30, McBride).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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12. Claims 2, and 21 – 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002) in view of Agrawal et al. (Agrawal hereinafter) (US Patent No. 5,647,058, issued: July 8, 1997).

Regarding Claim 2, McBride discloses all the limitations as disclosed above including grid index series (Col. 4, lines 32 – 33 and 40 – 44, the grid point index, McBride). However, McBride is silent with respect to a database. On the other hand, Agrawal discloses a database management system including: outputting said index series to a database (Col. 5, lines 38 – 41 and 49 – 50, Agrawal). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Agrawal's teachings to the system of McBride. Skilled artisan would have been motivated to do so, as suggested by Agrawal (Col. 4, lines 1 – 4, Agrawal), to provide a method for high dimensional indexing which guarantees completeness, and which reduces the propensity for false positives, thus being efficient. In addition, both of the references (McBride and Agrawal) teach features that are directed to analogous art and they are directed to the same field of endeavor of database management system, such as, indexing, searching, and querying indexed databases. This relation between both of the references highly suggests an expectation of success.

Regarding Claim 21, the combination of McBride in view of Agrawal ("McBride/Agrawal" hereinafter) discloses a computer-implemented process wherein the database comprises a location entity identifier (Col. 3, lines 62 – 64, survey control

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points, McBride; and Col. 5, lines 43 – 46, “entries”, “coefficients”, “component”, Agrawal) and a scale index for one or more scales each corresponding to a different grid (Col. 4, lines 42 – 44, McBride; and Col. 5, lines 59 – 61, an index, Agrawal).

Regarding Claim 22, McBride/Agrawal discloses a computer-implemented process wherein a query of the database comprises the following process actions:

querying which location entities are in a given grid cell at a given grid scale (Col.5, lines 17 – 19, given any particular query, Agrawal);

searching in the data of the given grid scale for the values of the given grid cell (Col. 5, lines 61 – 65, Agrawal); and

returning said values of the given grid cell at the given grid scale (Col.5, lines 64 – 67, to retrieve the qualifying object, Agrawal).

13. Claims 7 – 8, 19 – 20, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002) in view of Enomoto (US Patent No. 6,603,885 B1, filed: April 29, 1999).

Regarding Claims 7, McBride discloses all the limitations as disclosed above including a computer-implemented process wherein the process action of computing a grid index series comprises: gridding the globe (Col. 2 and 3, lines 27 – 32 and 37 – 38; respectively, McBride), and indexing each grid (Col. 4, lines 32 – 33 and 40 – 44, the

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grid point index, McBride). However, McBride is silent with respect to resolutions, and raster scan order. On the other hand, Enomoto discloses gridding at a prescribed number of resolutions (Col. 70, lines 61 – 67, Enomoto); and grids in raster scan order (Fig. 25A and 25B, Col. 64, lines 20 – 27, Enomoto). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Enomoto's teachings to the system of McBride. Skilled artisan would have been motivated to do so, as suggested by Enomoto (Col. 6, lines 35 – 39 and 53 – 57, Enomoto), to provide high-speed image processing on image data with higher degree of flexibility, and to provide more intense sharpening to image quality. In addition, both of the references (McBride and Enomoto) teach features that are directed to analogous art and they are directed to the same field of endeavor, such as, image processing. This relation between both of the references highly suggests an expectation of success.

The combination of McBride in view of Enomoto ("McBride/Enomoto" hereinafter) discloses all the limitations as disclosed above including: mapping the latitude and longitude coordinates of each location entity to the index (Col. 2, lines 41 – 49, McBride³).

Regarding Claims 8, McBride/Enomoto discloses a computer-implemented process wherein the prescribed number of resolutions is 20 (Col. 70, lines 61 – 67, Enomoto).

Regarding Claims 28, McBride/Enomoto discloses a computer-readable medium wherein the series of grids grid the globe at twenty different resolutions (Col. 70, lines 61 – 67, Enomoto), with "square" units whose sides correspond to $20 \times (1/2)^r$ degrees, for $0 \leq r < 20$ (Col. 4, lines 40 – 44, different weights or sensitivities to be assigned to different grid points, McBride).

14. Claims 9 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002) in view of Enomoto (US Patent No. 6,603,885 B1, filed: April 29, 1999), and further in view of Porcelli et al. (Porcelli hereinafter) (US Patent No. 6,333,924 B1, issued: December 25, 2001).

Regarding Claims 9, McBride/Enomoto discloses all the limitations as disclose above including determining the longitude, and standard deviation, where a standard deviation σ is the measurement error of a given latitude (Col. 7, lines 52 – 55, McBride), longitude coordinates (Col. 2, lines 41 – 44, latitude and longitude, McBride). However, McBride/Enomoto is silent with respect to determining the longitudinal span, D. On the other hand, Porcelli discloses determining the longitudinal span, D, in degrees (Col. 8, lines 27 – 32, Porcelli). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Porcelli's teachings to the system of McBride/Enomoto. Skilled artisan would have been motivated to do so, as suggested by

³ Wherein examiner interprets the step of associating and matching the coordinates to each grid as the

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Porcelli (Col. 8, lines 17 – 18 and 27 – 32, Porcelli), to calculate the true Earth centered angle at a given latitude, and further utilized this calculation to provide continuity of services in two geographical areas at opposite longitude. In addition, both of the references (McBride/Enomoto and Porcelli) teach features that are directed to analogous art and they are directed to the same field of endeavor, such as, global positioning systems, and latitude and longitude measurements. This close relation between both of the references highly suggests an expectation of success.

The combination of McBride in view of Enomoto and further in view of Porcelli (“McBride/Enomoto/Porcelli” hereinafter) discloses all the limitations as disclosed above including: determining the degree-scale of precision, R , to be the discrete unit of resolution just larger than D (Col. 70, lines 61 – 67, Enomoto).

Regarding Claim 10, McBride/Enomoto/Porcelli discloses a computer-implemented process wherein the longitudinal span in degrees that 3σ meters corresponds to is $d = [180(3\sigma) \cos(\text{latitude})]/k\pi$ is determined, where k is the circumference of the earth in meters (Col. 8, lines 27 – 32, Porcelli).

Regarding Claim 11, McBride/Enomoto/Porcelli discloses a computer-implemented process wherein the process action of determining the degree-scale of precision, R , to be the discrete unit of resolution just larger than D comprises setting $r = \lceil \log_2 d/20 \rceil$ (Col. 70, lines 61 – 67, Enomoto).

step of mapping claimed.

Regarding Claim 12, McBride/Enomoto/Porcelli discloses a computer-implemented process wherein the globe is gridded with overlapping grids at each scale in order to increase accuracy (Col. 3 and 4, lines 64 – 67 and 1 – 2; respectively, McBride⁴).

Regarding Claim 13, McBride/Enomoto/Porcelli discloses a computer-implemented process wherein coordinates of location entities are mapped to the square whose center is closest (Col. 3, lines 62 – 64, McBride).

15. Claim 19 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002) in view of Enomoto (US Patent No. 6,603,885 B1, filed: April 29, 1999), and further in view of Na et al. (Na hereinafter) (European Patent Application EP 838 764 A2, filed: October 23, 1997).

Regarding Claims 19, McBride/Enomoto discloses a computer-implemented process wherein the location entity's coordinates in latitude (lat) and longitude (long) is mapped to the index (Col. 2, lines 41 – 49, McBride⁵), and the degree-scale of precision (Col. 70, lines 61 – 67, Enomoto⁶). However, McBride/Enomoto does not expressly disclose a specific formula for mapping this information to the index. On the other hand,

⁴ Examiner interprets: containing different points drawn in Fig. 3, McBride, implies overlapping the gridding.

⁵ Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed.

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Na discloses: location entity's coordinates in latitude (lat) and longitude (long) mapped to the index by $I = (360 / r) [(lat + 90) / r] + [(long + 180) / r]$ where r is the degree-scale of precision, and I maps the coordinates to the location entity (Page 7, lines 6 – 8, 23 – 25, and 43 – 46, Na). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Na's teachings to the system of McBride/Enomoto. Skilled artisan would have been motivated to do so, as suggested by Na (Page 11, lines 43 – 48, Na), to manage map data involving maps of various scales via a formalized index structure and a hierarchical structure, thus the size of the index file can be minimized and the search of the map data can be simply performed via simple calculation and a map database efficiently constructed. In addition, both of the references (McBride/Enomoto and Na) teach features that are directed to analogous art and they are directed to the same field of endeavor, such as, database management systems, global positioning systems, latitude, longitude measurements, and indexing locations. This close relation between both of the references highly suggests an expectation of success. In addition, examiner takes in consideration that this step would have been obvious because it is the only way to geometrically calculate the index in degrees when utilizing inputs, such as, latitude, longitude, and radius of the earth.

Regarding Claims 20, the combination of McBride in view of Enomoto and further in view of Na ("McBride/Enomoto/Na" hereinafter) discloses a computer-implemented

⁶ Wherein examiner interprets the resolutions as the degree-scale of precision claimed.

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process wherein to recover the latitude and longitude values, the latitude (lat) and longitude (long) is calculated as:

$$lat = lr^2 / 360 - 90 + r / 2 \text{ (Col. 2, lines 41 – 49, McBride}^7\text{; and Page 7, lines 11 – 15, Na),}$$
$$long = l \% r / 360 - 180 + r / 2 \text{ ((Col. 2, lines 41 – 49, McBride}^8\text{; and Page 7, lines 17 – 21, Na),}$$

where r is the degree-scale of precision, l maps the coordinates to the location entity, and $\%$ is the modulus operator.

⁷ Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed. This formula represents a procedure to geometrically calculate the latitude and longitude utilizing the index discussed above.

⁸ Wherein examiner interprets the step of associating and matching the coordinates to each grid as the step of mapping claimed. This formula represents a procedure to geometrically calculate the latitude and longitude utilizing the index discussed above.

Prior Art Made Of Record

1. McBride (US Patent No. 6,370,476 B1, issued: April 9, 2002) discloses an interpolation of survey coordinate differences.
2. Agrawal et al. (US Patent No. 5,647,058, issued: July 8, 1997) discloses a method for high-dimensionality indexing in a multi-media database.
3. Enomoto (US Patent No. 6,603,885 B1, filed: April 29, 1999) discloses an image processing method and apparatus.
4. Porcelli et al. (US Patent No. 6,333,924 B1, issued: December 25, 2001) discloses high latitude geostationary satellite system.
5. DeLorme et al. (US Patent App. Pub. No. 2003/0182052 A1) discloses an integrated routing/mapping information system.
6. Na et al. (European Patent Application EP 838 764 A2, filed: October 23, 1997) discloses map data base management method and system therefor.

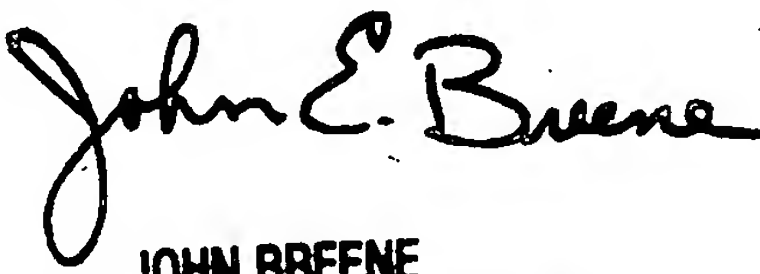
Points Of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna Colan whose telephone number is (571) 272-2752. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Giovanna Colan
Examiner
Art Unit 2162
April 25, 2006


JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100